

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Revised Preliminary Draft Staff Report

Proposed Amended Rule 1156 – Further Reductions of Particulate Emissions from Cement Manufacturing Facilities

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Table of Contents

I.	EXECUTIVE SUMMARY	1
II.	BACKGROUND	3
A.	REGULATORY HISTORY	4
B.	FIVE-YEAR HEXAVALENT CHROMIUM AMBIENT MONITORING	5
C.	CEMENT FACILITY CLOSURE WORKING GROUP	9
D.	UPDATE TO OEHHA RISK ASSESSMENT GUIDELINES	9
E.	PUBLIC PROCESS	10
III.	PROPOSED AMENDMENTS	10
A.	REDUCED MONITORING AND FACILITY CLOSURE	10
B.	CEMENT FACILITIES AND NEW OEHHA GUIDANCE	12
C.	OTHER PROPOSED MENDMENTS	14
IV.	CALIFORNIA ENVIRONMENTAL QUALITY ACT	14
V.	SOCIOECONOMIC ASSESSMENT	15
VI.	DRAFT FINDINGS	15
VII.	CONCLUSION	16
	APPENDIX A - RESPONSE TO COMMENTS	

LIST OF FIGURES

Figure 1 - Sampling Locations for Hexavalent Chromium in Western Riverside and San Bernardino Counties	6
Figure 2 - 3-Day Rolling Average - All Sites - 2008 to Current	7
Figure 3 - 90-Day Rolling Average minus Background - Riverside Cement	8
Figure 4 - 90-Day Rolling Average minus Background – CPCC	8
Figure 5 - 90-Day Rolling Average minus Background - Riverside Cement (relative to proposed limit and updated background)	13
Figure 6 - 90-Day Rolling Average minus Background - CPCC (relative to proposed limit and updated background)	13

Note to Reader:

SCAQMD staff held a Public Consultation meeting in April 2015 on the proposed amendments to Rule 1156. Since that time, additional amendments are proposed, including a change to the fence-line threshold for hexavalent chromium to reflect updated Office of Environmental Health Hazard Assessment's (OEHHA) risk assessment guidelines. Other minor amendments discussed herein are also proposed. For reader ease, key changes reflected in this Revised Preliminary Draft Staff Report (since the April 2015 version) are shown in underline format.

I. EXECUTIVE SUMMARY

Rule 1156 - Further Reductions of Particulate Emissions from Cement Manufacturing Facilities was adopted in November 2005. The original rule requires cement manufacturing facilities to comply with specific requirements applicable to various operations, as well as materials handling and transport at the facilities. Riverside Cement (RC) in Riverside and California Portland Cement Company (CPCC) in Colton are the two cement manufacturing facilities in the SCAQMD's jurisdiction subject to Rule 1156.

Rule 1156 was amended in March 2009 to further reduce particulate emissions and to address elevated ambient concentrations of the carcinogen, hexavalent chromium (Cr^{+6}), observed at the Rubidoux monitoring station in Western Riverside County as part of the third Multiple Air Toxics Emissions Study (MATES III). To protect the public from Cr^{+6} exposure, the amendments included a threshold for Cr^{+6} that was established to be 0.70 ng/m^3 (excluding background), based on 100-in-a-million fence-line cancer risk. Based on MATES III, a 0.16 ng/m^3 Cr^{+6} background was derived based on the two-year sampling effort at nine fixed-site monitoring stations across the Basin (excluding the Rubidoux station). Rubidoux station was excluded from the derivation as its Cr^{+6} levels were likely influenced by the cement manufacturing facilities. Therefore, a fence-line effective limit was established at 0.860 ng/m^3 . The rule amendment also required additional control measures such as: clinker storage area protection, Cr^{+6} ambient monitoring, and wind monitoring, with contingencies (i.e., clinker enclosure based on Cr^{+6} results and PM10 monitoring in case of elevated concentrations). As part of the rule amendment Resolution, the Board directed staff to re-evaluate the need for, and the frequency of, Cr^{+6} ambient monitoring after five (5) years of data collection, and to establish a working group to develop a Facility Closure Air Quality Plan Option (Closure Plan).

Staff met with the working group in 2010 and 2011 to discuss the criteria for facility closure and conditions to potentially sunset Cr^{+6} ambient monitoring. A draft closure plan was developed and presented to the Stationary Source Committee (SSC) in 2012, but was left as a living document since neither facility was producing clinker at the time and there was uncertainty regarding future cement manufacturing activities given the economy. Currently, both cement manufacturing facilities are still non-operational regarding clinker production. RC and CPCC only process clinker or cement material imported from facilities outside the SCAQMD's jurisdiction.

To address the potential change in land use of the property in the event of cement facility closure, staff proposes revisions to Rule 1156. The current proposal includes requirements for both current and future owners/operators of the property, as well as conditions for potential reduction in the number of Cr^{+6} monitoring stations and elimination of Cr^{+6} ambient monitoring under specific conditions. The proposal is intended to minimize potential air quality impacts from cement facility closure and to ensure long-term air quality and public protection, while streamlining Cr^{+6} ambient monitoring.

Staff also proposes to revise the Cr⁺⁶ ambient air monitoring fence-line threshold as a result of the 2015 update to the Office of Environmental Health Hazard Assessment's (OEHHA) risk assessment guidelines. The new guidelines account for age sensitivity factors and multiple pathways of exposure in addition to inhalation, cancer risk estimates to residential and sensitive receptors. For Cr⁺⁶, estimated risks will increase by a factor of 3.87.

Staff is proposing to change the fence-line Cr⁺⁶ ambient air monitoring threshold from 0.7 ng/m³ to 0.20 ng/m³ (both levels are excluding background). The Cr⁺⁶ ambient air monitoring background is currently 0.043 ng/m³, based on the average background concentrations observed at the Fontana and Rubidoux stations as part of the fourth Multiple Air Toxics Emissions Study (MATES IV). With this background level, the new effective limit for Cr⁺⁶ will be 0.243 ng/m³. Staff also proposes an implementation schedule for the new fence-line limit phase-in.

Staff conducted a public consultation meeting in April 2015 to solicit input on the April version of proposed rule, including dust control measures. In response to industry's request, the Public Hearing was rescheduled to September 2015 to allow additional time for stakeholders to provide comments. Staff will conduct a public workshop in June 2015 to seek additional input on the additional proposed Cr⁺⁶ ambient air monitoring background and fence-line threshold, the implementation schedule for new Cr⁺⁶ standard and compliance requirements in the events of Cr⁺⁶ exceedance, and the criteria to validate duplicate PM10 samples at low concentrations (significantly less than the emission limit of 0.01 grain/dscf).

The following summarizes the key proposed amendments:

- Rule purpose and applicability are updated to clarify applicability of the rule after facility closure;
- Criteria for facility closure relative to cement manufacturing operation: activities must be completely ceased (i.e., blending silo, kiln, clinker cooler, and clinker grinding/milling) and related permits must be surrendered or have expired and are no longer reinstatable;
- Condition for reducing Cr⁺⁶ ambient monitoring stations at existing cement facilities:
 - Approval for reduced number of monitoring stations (minimum of one) may be obtained upon subsequent 12 consecutive months of demonstrating less than current Cr⁺⁶ threshold (0.70 ng/m³, excluding background) after date of rule amendment;
 - Reversion to more frequent monitoring schedule for confirmed exceedances of the applicable threshold, considering wind and other relevant data;
- Effective April 1, 2016, ambient Cr+6 concentrations from a 30-day or 90-day rolling average shall not exceed 0.20 ng/m3 (excluding background). Prior to this date, the previous Cr+6 threshold of 0.70 ng/m3 (excluding background) is still valid.

- A compliance plan with detailed descriptions of all feasible mitigation measures is required upon any confirmed Cr^{+6} exceedance of the new threshold of 0.20 ng/m³ occurring after April 1, 2016.
- Criteria to validate duplicate samples:
 - PM10 concentrations of both samples must be below 0.002 grain/dscf;
or
 - The difference between two samples shall be less than 35% of their average and the difference between the sample catches (normalized to the average sampling volume) shall be less than 3.5 milligrams;
- Requirements after facility closure:
 - Continued Cr^{+6} ambient monitoring with possible sunset if no confirmed exceedance occurs during 12 consecutive months of monitoring after date of rule amendment;
 - Provisions for Cr^{+6} ambient monitoring relocation and co-located monitoring and sampling by SCAQMD;
 - Dust mitigation plan submittal and receiving written approval from SCAQMD prior to any change in land use or disturbance activities:
 - ✓ Protocol for soil sampling and Cr^{+6} ambient monitoring required before, during, and after land disturbance activities;
 - ✓ Approval for reducing Cr^{+6} ambient monitoring stations and/or frequency of soil sampling and Cr^{+6} ambient monitoring may be obtained based on scope of activities;
 - ✓ Description of control and/or stabilization measures required upon update evidence of Cr^{+6} ;
 - ✓ Required information regarding dust mitigation;
 - Areas of property that are not contaminated may be excluded from the Dust Mitigation Plan, based on site-specific assessments identifying areas with and without Cr^{+6} contamination; and
 - Compliance with other agencies' requirements.

II. BACKGROUND

Portland cement is commonly manufactured through a dry method in which the combination of ground limestone rock and iron ore or other materials is fed to a cement kiln. As the materials move through the rotating kiln at high a temperature (about 2,700 degree Fahrenheit), some elements are driven off as gases or particulates and the remaining form a new substance called clinker. Clinker comes out of the kiln as hot, gray spheres about the size of large marbles. Clinker is cooled, ground and/or milled to a very fine product, and blended with small amounts of gypsum and fly ash to become cement, which is sold in packages or in bulk.

According to staff analysis in 2008 that included soil sampling, ambient air samples, and emissions modeling, uncontrolled clinker material handling at cement manufacturing facilities associated with outdoor storage, transfer and re-entrained road dust were found to be the sources of the elevated ambient hexavalent chromium (Cr^{+6}) concentrations in Rubidoux. Kilns and finish mills at cement manufacturing facilities can also influence the formation and emissions of Cr^{+6} .

Cr⁺⁶ is a potent, known carcinogen, exposure to which could result in lung cancer, irritation and damage to the skin, eyes, nose, throat, and lung, asthma symptoms, and/or allergic skin reactions. Since clinker materials might also contain other toxics such as lead, arsenic, cadmium, and cobalt in addition to Cr⁺⁶, controlling emissions from these activities are essential.

Currently, both RC and CPCC are no longer producing clinker on-site. CPCC only imports cement from its Mojave facility for batch operations and has no immediate plans to restart one or both of its kilns to manufacture clinker at the Colton facility. However, CPCC retains the capability to restart clinker production. RC previously manufactured clinker at the Riverside facility, but has shut down this operation for many years. RC continues its cement manufacturing at this location by bringing in clinker from its Mojave facility for grinding, blending, and packaging in enclosed buildings vented to air pollution control devices.

At the time of the 2009 amendment, CPCC and RC had expressed a need for an off-ramp or sunset in Cr⁺⁶ monitoring upon facility closure. As currently written, Rule 1156 does not contain any such provisions. After facility closure, a cement manufacturing facility property can be converted for a variety of other uses. These potential uses can provide long-term stabilization of the land and as a result, can improve air quality in the area; however, during such land transformation, Cr⁺⁶ in soils might be re-entrained during land disturbance activities such as demolition, construction, grading, and paving. To ensure no degradation to air quality after facility closure and long-term public health protection, continued Cr⁺⁶ ambient monitoring after closure, and soil sampling, ground stabilization, and dust mitigation at the property related to land disturbing activities are imperative. However, recognizing a continued low level of Cr⁺⁶ concentrations that are in compliance with the Rule 1156 threshold during the past five years of monitoring, staff is proposing conditions for reducing or eliminating the required Cr⁺⁶ ambient monitoring, at existing cement facilities and after facility closure, in addition to other proposed rule revisions.

A. Regulatory History

Rule 1156 - Further Reductions of Particulate Emissions from Cement Manufacturing Facilities was adopted in 2005. The rule requires cement manufacturing facilities to comply with specific requirements, ranging from tarping, partial cover, dust suppressant, and total enclosure to control devices applicable to various operations and equipment, including kiln and clinker coolers and material storage, handling, processing, and transferring. To prevent track-out from the facility's roadways and areas, Rule 1156 requires specific controls, such as sweeping, speed limits, chemical dust suppressants, gravel pads, rumble grates, and truck/wheel washers, etc. RC Riverside Cement (RC) in Riverside and California Portland Cement (CPCC) in Colton are the only two cement manufacturing facilities in the SCAQMD's jurisdiction, and thus the only two facilities subject to Rule 1156.

Rule 1156 was amended in March 2009 to address unexpected elevated levels of Cr^{+6} , a potent known human carcinogen, observed at the Rubidoux monitoring station as part of the MATES III. These elevated concentrations were traced back to uncontrolled clinker materials handling associated with outdoor storage and transfer, and to re-entrained road dust at cement manufacturing facilities. Cr^{+6} emissions also occurred from facility operations, including kilns, kiln dust ponds, and finish mills since they can also influence the formation and emissions of Cr^{+6} .

The 2009 rule amendment included adoption of an ambient Cr^{+6} limit of 0.70 ng/m^3 based on a 100 in a million fence-line risk, less background. The 2009 rule amendment also required additional control measures be implemented at the facilities, such as: clinker storage area protection (i.e., wind fencing and impervious tarps), Cr^{+6} ambient monitoring, and wind monitoring, with contingencies (i.e., clinker enclosure based on Cr^{+6} results and PM10 monitoring in case of elevated concentration), to further reduce particulate and Cr^{+6} emissions from cement manufacturing facilities. Under a Governing Board adoption resolution, the need for and frequency of Cr^{+6} ambient monitoring was to be re-evaluated after five (5) years of data collection and a working group was established to develop a Facility Closure Air Quality Plan Option (Facility Closure Plan). Cr^{+6} ambient monitoring results have been reported annually to the Stationary Source Committee beginning in 2011, and bi-annually to the Governing Board beginning in 2012.

B. Five-Year Hexavalent Chromium ambient monitoring

Figure 1 shows the previous locations of SCAQMD's Cr^{+6} monitoring stations (numbered 1 through 10) in Western Riverside and San Bernardino Counties that were used during the initial investigation. All but location 7 were subsequently removed as the Rule 1156 requirements for monitoring at the facilities were implemented. Figure 1 also shows the current locations of the four Cr^{+6} monitoring stations at RC and the three stations at CPCC.

Figure 1 - Sampling Locations for Hexavalent Chromium in Western Riverside and San Bernardino Counties

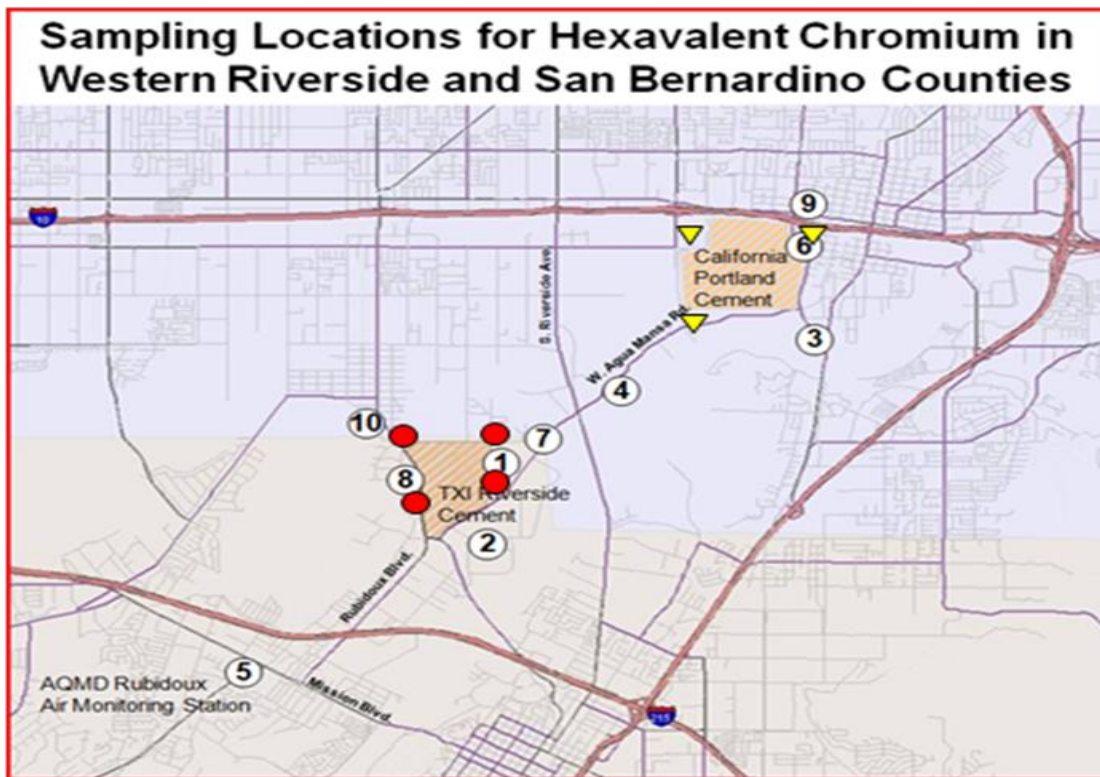
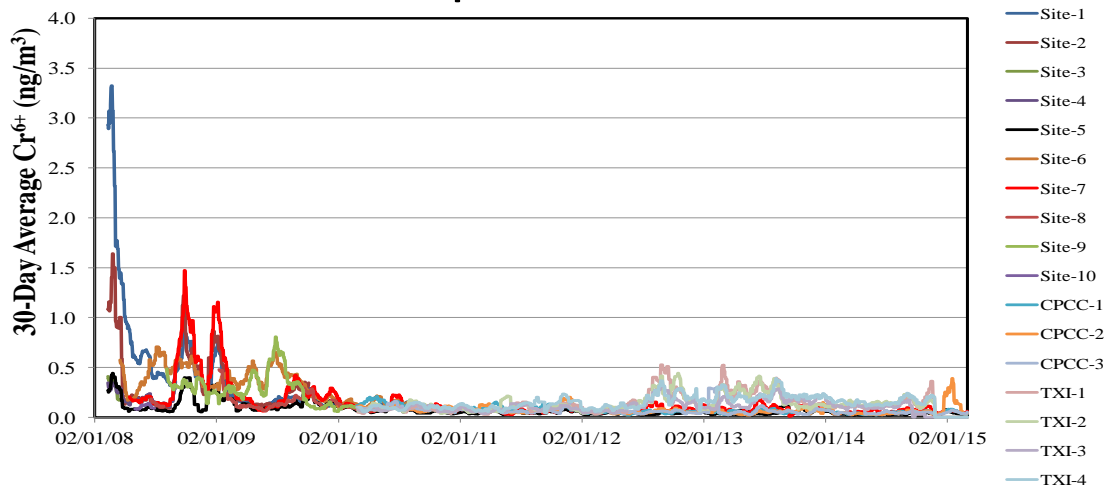


Figure 2 depicts the 30-day rolling average of Cr^{+6} ambient air concentrations at the monitoring stations in Western Riverside and San Bernardino Counties, as well as CPCC and RC since 2008.

Since implementation of the settlement agreement with RC in August 2008 and RC's voluntary shut down of its white cement kilns and finish mills due to the economic climate, the 30-day rolling average of Cr^{+6} shows an overall downward trend, except for some incidents where elevated ambient concentrations of Cr^{+6} were detected. However, since the implementation of amended Rule 1156 in March 2010, the 30-day rolling average of Cr^{+6} ambient concentrations measured at the monitoring stations in Western Riverside and San Bernardino Counties, as well as CPCC and RC, indicate continued compliance with the current Rule 1156 threshold (0.7 ng/m^3 , excluding background concentration of 0.16 ng/m^3).

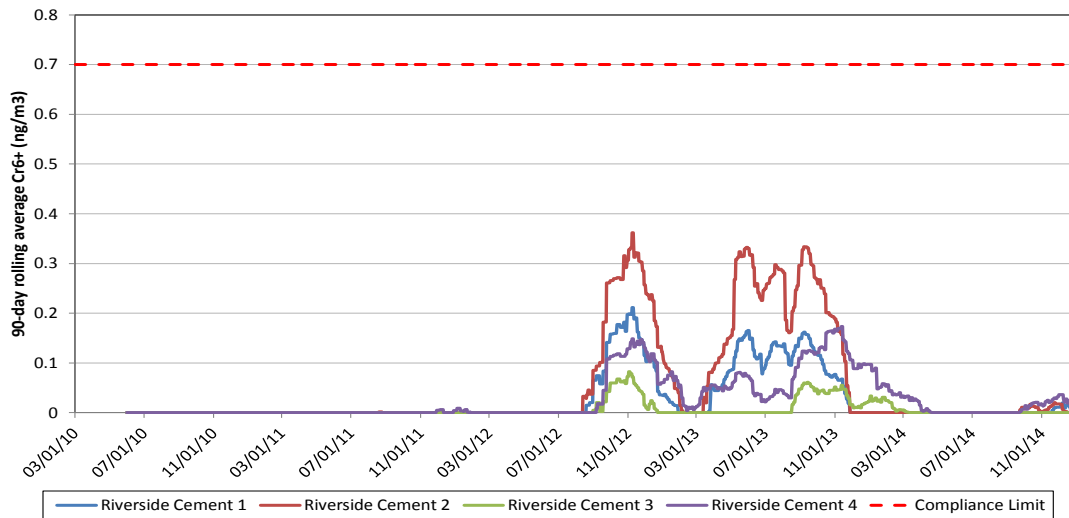
Figure 2 - 30-Day Rolling Average
All Sites | 2008 - Current



Per Rule 1156, after 12 months of no exceedance in Cr^{+6} ambient air concentrations under the 1-in-3-day sampling schedule, CPCC and RC changed their 24-hour Cr^{+6} ambient monitoring sampling to a 1-in-6-day schedule and a 90-day average threshold calculation in April 2011.

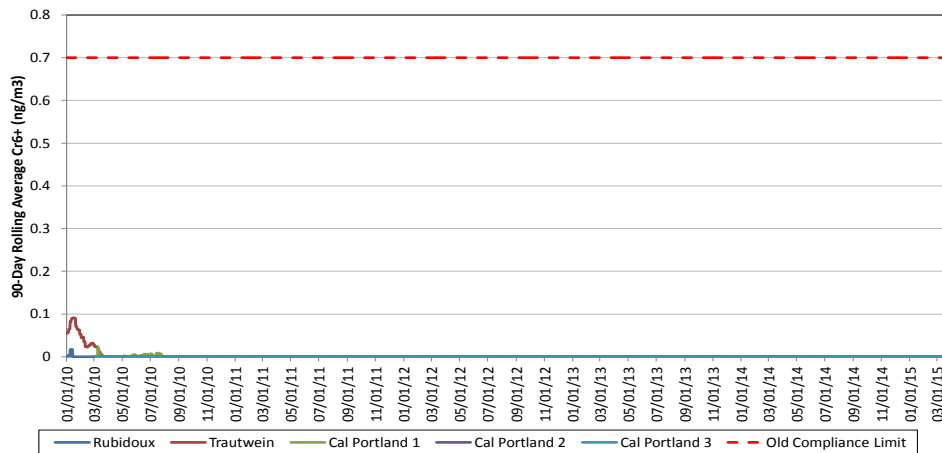
Figures 3 and 4, respectively, depict RC and CPCC's 90-day rolling average of Cr^{+6} ambient air concentrations, excluding the background of 0.16 ng/m^3 as per Rule 1156. The background level of 0.16 ng/m^3 was based on the Cr^{+6} ambient air concentrations from the two-year sampling effort as part of the MATES III (from 2004 to 2006) at nine fixed-site monitoring stations across the Basin (excluding the Rubidoux station). The Rubidoux station was excluded from the derivation as its Cr^{+6} levels were likely influenced by the cement manufacturing facilities.

Figure 3 - 90-Day Rolling Average minus Background – Riverside Cement¹



¹ Per the South Coast AQMD 2005 Staff Report for Rule 1156, a background concentration of 0.16 ng/m³ (MATES IV Study | average Cr⁶⁺ concentration in Fontana and Rubidoux) is utilized for rolling average compliance calculations. The rolling average is reported as a value of zero when the rolling average is less than or equal to zero.

Figure 4 - 90-Day Rolling Average minus Background – CPCC¹



¹ Per the South Coast AQMD 2005 Staff Report for Rule 1156, a background concentration of 0.16 ng/m³ (MATES IV Study | average Cr⁶⁺ concentration in Fontana and Rubidoux) is utilized for rolling average compliance calculations. The rolling average is reported as a value of zero when the rolling average is less than or equal to zero.

The 90-day rolling averages of Cr⁺⁶ are calculated based on the 1-in-6-day sampling for data measured after April 2011 when both facilities converted from a 1-in-3-day sampling schedules to a 1-in-6-day sampling. The 90-day rolling averages prior to April 2011 are calculated based on the 1-in-3-day measurements. The rolling average is reported as a zero value if it is less

than or equal to zero. For TXI, the peak of the 90-day rolling average of Cr^{+6} ambient air concentrations collected at each of their four monitoring stations lie below 0.4 ng/m^3 , less than the Rule 1156 limit of 0.7 ng/m^3 . For CPCC, the 90-day rolling average of Cr^{+6} ambient air concentrations collected at each of their three monitoring stations are below 0.1 ng/m^3 .

C. Cement Facility Closure Working Group

The Cement Facility Closure Working Group was convened and consisted of representatives from CPCC and RC, as well as staff from the Santa Ana Regional Water Quality Control Board and the San Bernardino County Land Use Services Department. The working group's purpose was to ensure minimal air quality impacts from cement facility closure and long-term health protection for the surrounding communities.

Staff conducted two working group meetings in 2011 and 2012. Potential criteria for facility closure, ways to measure long-term soil stability, steps to ensure long-term health protection, and conditions to sunset the Cr^{+6} monitoring requirements were discussed. A draft Facility Closure Plan, inclusive of input and recommendations from the working group, was presented to the Stationary Source Committee (SSC) in 2012, but was left as a living document since neither facility was producing clinker at the time and uncertainties existed as to the restarting of clinker and cement manufacturing activities when the economy recovered.

D. Update to OEHHA Risk Assessment Guidelines

Since the 1990's, it has been a Governing Board policy, as established in Rules 1401 – New Source Review of Toxic Air Contaminants and 1402 – Control of Toxic Air Contaminants from Existing Sources, for the assessment of public health risk to be conducted via guidelines established by OEHHA. In April 2015, OEHHA finalized updates to its guidelines for determination of risk. The guidelines include an update to how risk is calculated. Specifically, the guidelines now include age sensitivity factors and multi-pathway exposure (i.e., dermal, ingestion, etc.) in addition to inhalation. The result is a net cancer risk increase of three to four times prior calculated levels. In the case of hexavalent chromium, due to the multi-pathway exposure, the risk increases by a factor of 3.87. Based on the revised guidelines, fence-line Cr^{+6} levels for a 100-in-a-million cancer risk would be 0.181 ng/m^3 . The Basin-average Cr^{+6} ambient monitoring background based MATES IV would be 0.056 ng/m^3 . Staff's proposal to address the updated guidelines pertaining to Rule 1156 is described herein.

E. Public Process

In addition to the working group meetings in 2011 and 2012, staff also met with representatives of CPCC and RC in January 2015 to solicit comments on the proposed amendment concepts. Comments received were incorporated into development of the April version of proposed amendments, as appropriate.

Staff conducted a working group meeting on April 7, 2015 to present detailed proposed amendments. Draft rule language was released to the working group for their review and comments prior to the SSC meeting on April 17th. Staff conducted a public consultation meeting on April 22nd near a cement facility for ease of community participation, to solicit input on the April version of proposed rule, including dust control measures.

Since then, staff also met with RC and CPCC on two separate occasions in May regarding the proposed more stringent threshold and determination of the actual emission sources if there is an exceedance. Staff will conduct a public workshop in June 2015 to seek additional input on the proposed Cr⁺⁶ ambient air monitoring fence-line threshold, the implementation schedule for new Cr⁺⁶ standard, compliance requirements in the event the Cr⁺⁶ levels are exceeded, and the criteria to validate duplicated PM10 samples at low concentrations (significantly less than the emission limit of 0.01 grain/dscf).

In response to industry's request, the Public Hearing was rescheduled to September 2015 to allow additional time for stakeholders to provide comments.

III. PROPOSED AMENDMENTS

A. Reduced Monitoring and Facility Closure

Recognizing potential changes in ownership and land use after a facility closure, staff proposes to update the rule purpose and applicability to clarify rule applicability after facility closure. The rule is intended to include subsequent owner(s)/operator(s) of the property after facility closure.

Staff also proposes the criteria for facility closure. To qualify for facility closure, all cement manufacturing operations/equipments, including but not limited to blending silo, kiln, clinker cooler, and clinker grinding/milling must be completely ceased, and all related permits for operation must be surrendered or are expired and not reinstatable.

To streamline Cr⁺⁶ ambient monitoring at existing cement manufacturing facilities, staff proposes conditions for reducing the number of Cr⁺⁶ ambient monitoring stations. After the date of rule amendment and upon twelve (12) consecutive months of demonstrating less than current Cr⁺⁶ threshold (0.70

ng/m³, excluding background), the owner(s)/operator(s) may submit for approval an amended compliance monitoring plan to operate a minimum of one monitoring station, predominantly downwind from the emission source(s). However, if such thresholds are confirmed to have been exceeded at any time while under the new monitoring plan, the owner(s)/operator(s) must revert back to prior monitoring requirements, which include a minimum of three (3) monitoring stations, a 1-in-3 day sampling schedule, and a 30-day rolling average threshold of 0.7 ng/m³ (excluding background). Reverting back to the more frequent monitoring schedule must occur if the Executive Officer confirms through wind event or other wind data, as necessary, that the facility is the source of the emissions.

To ensure no degradation to air quality after a facility closure and long-term public health protection, the proposed amendments require owner(s)/operator(s) of the property (including subsequent owner(s)/operator(s) in the event of ownership/operator change) to continue their Cr⁺⁶ ambient monitoring in accordance with the most recent monitoring plan, schedule, and threshold. However, the owner(s)/operator(s) may seek SCAQMD's approval to cease the Cr⁺⁶ monitoring if no ambient Cr⁺⁶ threshold is exceeded during the most recent twelve (12) consecutive months of monitoring.

The proposed amendments also include provisions for Cr⁺⁶ ambient monitoring relocation and co-located monitoring and sampling by SCAQMD. In the event of any temporary relocation of ambient Cr⁺⁶ monitor(s), the owner(s)/operator(s) must notify the SCAQMD in writing and obtain its approval prior to such relocation. The owner(s)/operator(s) must move the monitor(s) back to the original location(s) or other approved locations(s) within the timeframe specified by the SCAQMD. The owner(s)/operator(s) is also obligated to allow the SCAQMD to conduct co-located Cr⁺⁶ ambient monitoring and soil sampling as needed.

To minimize potential Cr⁺⁶ emissions during demolition, construction, grading, and/or paving activity after facility closure, the proposed amendments require the owner(s)/operator(s) of a property to submit a dust mitigation plan and receive written approval from SCAQMD prior to any change in land use or disturbance activities. The dust mitigation plan must consist of: (1) specific information regarding potential sources of fugitive dust emissions and dust mitigation set forth in PAR 1156, subparagraphs (h)(5)(A), (B), (C), and (E); (2) a protocol for soil sampling and Cr⁺⁶ ambient monitoring required before, during, and after land disturbance activities; and (3) a detailed description of control and/or stabilization measures that will be applied to each source during all active operations upon evidence of Cr⁺⁶. The control and/or stabilization utilized must meet the best or reasonably available control measures (BACM/RACM) standards. The owner(s)/operator(s) may request for a reduction in the number of Cr⁺⁶ monitoring stations and/or reduced frequency of soil sampling and Cr⁺⁶ monitoring appropriate to the scope of the land

disturbance activities. In addition, through a site-specific assessment using soil sampling, historical activities, or other means, the owner(s)/operator(s) may request exclusion from the Dust Mitigation Plan certain areas of the property determined not to be contaminated by Cr^{+6} .

The proposed amendments also require owner(s)/operator(s) of a property, after a facility closure, to comply with site-specific requirements from other agencies, and to ensure that all required mitigations including those required under the CEQA process.

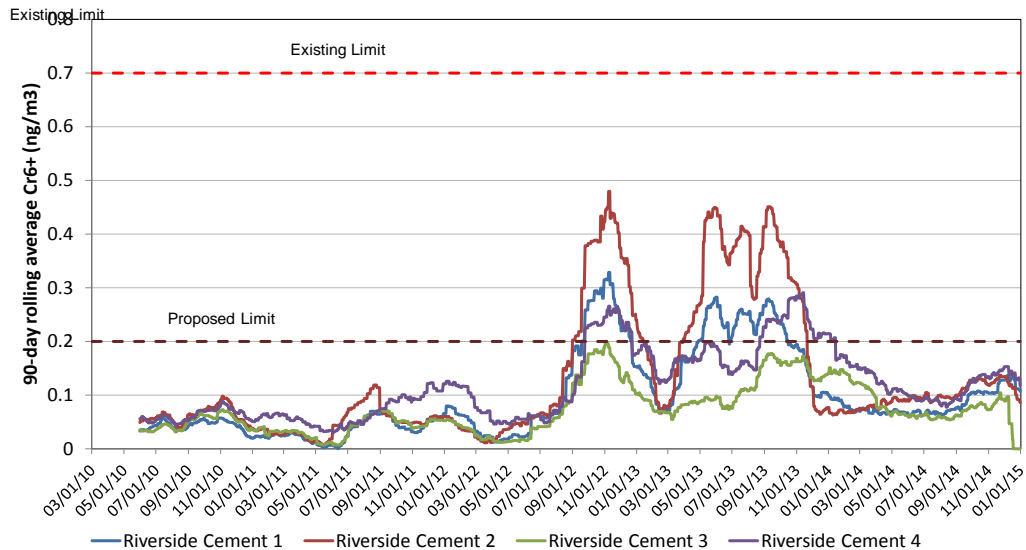
B. Cement Facilities and New OEHHA Guidance

As previously discussed, under the 2015 update to the OEHHA's risk assessment guidelines, the fence-line Cr^{+6} ambient monitoring threshold is proposed to be lowered to 0.20 ng/m^3 (excluding background).

Staff will also update the background level concentration for determining compliance with the fence-line risk. Specifically, the MATES IV Basin average background risk is 0.056 ng/m^3 . However, the sub-regional background applicable to the proximity of the RC and CPCC observed at Fontana and Rubidoux is 0.043 ng/m^3 . This background level will be used for Rule 1156 compliance purposes. Therefore, the proposed new effective limit would be 0.243 ng/m^3 .

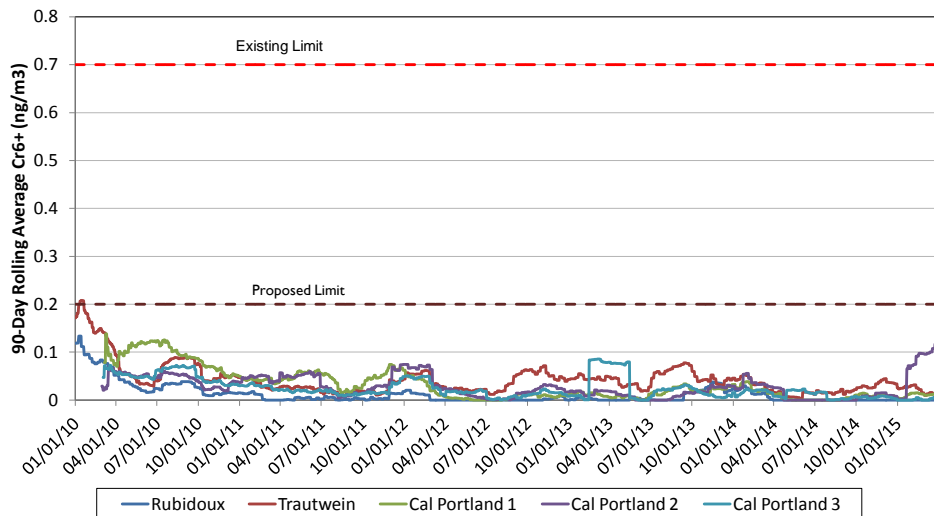
Figures 5 and 6, respectively, depict RC and CPCC's 90-day rolling average of Cr^{+6} ambient air concentrations in relation to the newly proposed 0.20 ng/m^3 threshold, less the background concentration of 0.043 ng/m^3 .

Figure 5 - 90-Day Rolling Average minus Background – Riverside Cement¹



¹ Per the South Coast AQMD 2005 Staff Report for Rule 1156, a background concentration of 0.043 ng/m³ (MATES IV Study | average Cr⁶⁺ concentration in Fontana and Rubidoux) is utilized for rolling average compliance calculations. The rolling average is reported as a value of zero when the rolling average is less than or equal to zero.

Figure 6 - 90-Day Rolling Average minus Background – Cal-Portland Cement¹



¹ Per the South Coast AQMD 2005 Staff Report for Rule 1156, a background concentration of 0.043 ng/m³ (MATES IV Study | average Cr⁶⁺ concentration in Fontana and Rubidoux) is utilized for rolling average compliance calculations. The rolling average is reported as a value of zero when the rolling average is less than or equal to zero.

As with Figures 3 and 4, the 90-day rolling averages of Cr⁶⁺ from these figures are calculated based on the 1-in-6-day sampling for data measured after April 2011 when both facilities converted from a 1-in-3-day sampling schedules to a 1-in-6-day sampling. The 90-day rolling averages prior to

April 2011 are calculated based on the 1-in-3-day measurements. The rolling average is reported as a zero value if it is less than or equal to zero.

For RC, the peak of the 90-day rolling average of Cr⁺⁶ ambient air concentrations collected at each of their four monitoring stations were occasionally above the newly proposed 0.20 ng/m³. According to RC, higher than usual Cr⁺⁶ levels occurred when the facility restarted their finishing mills at full capacity. Staff continues working with RC on the potential impact of the new fence-line threshold.

For CPCC, the peak of the 90-day rolling average of Cr⁺⁶ ambient air concentrations collected at each of their four monitoring stations is below the proposed 0.20 ng/m³. Even using the new, lower, and thus more conservative background level and threshold, CPCC's past monitoring has been consistently lower than the proposed limit.

To address industry's concern, staff proposes an implementation schedule for the updated Cr⁺⁶ threshold and a provision that wind and other relevant data will be examined to determine whether cement facility is the actual sources of any Cr⁺⁶ exceedances. As proposed, the new Cr⁺⁶ threshold and background concentration would be effective on April 1, 2016. Starting April 1, 2016, the Cr⁺⁶ threshold of 0.20 ng/m³ and background concentration of 0.043 ng/m³ would be utilized for the rolling average compliance calculations. The current Cr⁺⁶ threshold of 0.70 ng/m³ (excluding background of 0.16 ng/m³) would still be valid prior to this date.

As a safeguard, the proposed amendments also require owner(s)/operator(s) to submit a compliance plan with detailed descriptions of feasible mitigation measures upon any confirmed Cr⁺⁶ exceedance of the new threshold of 0.20 ng/m³ occurring after April 1, 2016. The plan must demonstrate increments of progress as quickly as possible. In the event that the fence-line risk cannot be brought below the threshold after plan implementation, an updated plan shall be submitted to meet the standard.

C. Other Proposed Amendments

To address industry's concern regarding unnecessary cost to comply with current precision requirements for duplicate samples with significant lower PM10 concentrations than the emission limit of 0.01 grain/dscf, staff also proposes to revise the criteria to validate duplicate samples. Specifically, PM10 concentrations of both samples must be below 0.002 grain/dscf; or the difference between two samples must be less than 35% of their average and the difference between the sample catches (normalized to the average sampling volume) must be less than 3.5 milligrams.

IV. CALIFORNIA ENVIRONMENTAL QUALITY ACT

PAR 1156 is considered a "project" as defined by the California Environmental Quality Act (CEQA), and the SCAQMD is the designated lead agency. Pursuant to

the CEQA and SCAQMD Rule 110, the SCAQMD staff will evaluate the proposed project and make the appropriate CEQA determination. The public workshop will also solicit public input on any potential environmental impacts from the proposed project. Comments received at the public workshop on any environmental impacts will be considered when developing the final CEQA document for this rulemaking.

V. SOCIOECONOMIC ASSESSMENT

Proposed amendments to Rule 1156 will establish conditions by which Cr⁺⁶ monitoring requirements can be potentially reduced, and for facility closure, conditions by which monitoring requirements can be potentially eliminated. In addition, the PAR 1156 would lower the current fence-line Cr⁺⁶ ambient air monitoring threshold from 0.7 to 0.2 ng/m³. The SCAQMD will be reviewing the proposed amendments and will determine if the proposed rule changes will have any socioeconomic impacts. Appropriate socioeconomic documentation for PAR 1156 will be prepared based on the analysis.

VI. DRAFT FINDINGS

Health and Safety Code Section 40727 requires the SCAQMD to adopt written findings of necessity, authority, clarity, consistency, non-duplication and reference.

Necessity

A need exists to amend Rule 1156 to allow flexibility to the facilities given a continuous demonstration of compliance and to minimize Cr⁺⁶ emissions from the property after a facility closure to address future change in land use. A need also exists to update the ambient Cr⁺⁶ threshold based on updated OEHHA's risk assessment guidelines.

Authority

The SCAQMD Board obtains its authority to adopt, amend, or repeal rules and regulations from California Health & Safety Code Sections 39002, 40000, 40001, 40440, 40702, and 40725 through 40728, and 41700, inclusive.

Clarity

The proposed amended rule has been written or displayed so that its meaning can be easily understood by persons directly affected by it.

Consistency

The proposed amended rule is in harmony with and not in conflict with or contrary to, existing statutes, court decisions or state or federal regulations.

Duplication

The proposed amended rule does not impose the same requirements as any state or federal regulations. The amendment is necessary and proper to execute the powers and duties granted to, and imposed upon, SCAQMD.

Reference

By adopting the proposed amended rule, the SCAQMD Board will be implementing, interpreting, and making specific the provisions of the California Health & Safety Code Sections 40000 (authority over non-vehicular sources), 40001 (rules to achieve ambient air quality standards), and 41700 (public nuisance).

VII. CONCLUSION

The proposed amendments address the Governing Board directive, as stated in the 2009 adoption Resolution, to re-assess the frequency of, or the need for, continued monitoring after five years of data or facility closure. The proposed amendments would lower the ambient hexavalent chromium fence-line levels to reflect changes made by OEHHA to the risk assessment methodology. The proposed amendments meet these objectives, while providing provisions/conditions to ensure long-term public health protection from potential hexavalent chromium exposure.

APPENDIX A – RESPONSE TO COMMENTS

To Be Added